IN THE UNITED STATES DISTRICT COURT
MIDDLE DISTRICT OF GEORGIA
ALBANY DIVISION

MICHAEL NEWCOMB and KATHY NEWCOMB,	:	NO. 1:15-CV-00080-LJA
Plaintiffs	:	
vs.	:	
SPRING CREEK COOLER, INC.; SPRING CREEK PRODUCE, LLC; SF FARMS, INC.; SF EXPORTS, INC.; T&L FARMS, INC.; TERRIL SCOTT PROPERTIES, LLC; TERRIL SCOTT FARMS, LLC; WALDINE B. SCOTT FARMS, LLC; EDDIE T. SCOTT FARMS, LLC; TS EQUIPMENT LEASING, LLC; L&W FARMS, LP; TERRIL SCOTT; and JOHN DOE, Name Unknown, Address Unknown	:	
Defendants	:	

VIDEOTAPE DEPOSITION OF WILLIAM J. AZEREDO, M.D.

Taken in the offices of William Azeredo, M.D., 100 North Academy Avenue, Danville, Pennsylvania, on Thursday, February 16, 2017, commencing at 8:16 a.m., before Justine Starrick, Registered Professional Reporter, Tim Art, Videographer.

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GALLAGHER REPORTING & VIDEO, LLC
Mill Run Office Center
1275 Glenlivet Drive, Suite 100
Allentown, PA 18106

(610)439-0504/(800)366-2980

Gallagherreporting@verizon.net

APPEARANCES:

THE HELMS LAW FIRM
By: J. JEFFREY HELMS, ESQ.
P.O. Box 537
10 North College Street
Homerville, GA 31634
Jeffhelms@helmslaw.com
-- For the Plaintiffs

GARDNER WILLIS SWEAT PLAIRE & PICKETT
By: MARK L. PICKETT, ESQ.
P.O. Drawer 71788
2408 Westgate Drive
Albany, GA 31707
mark.pickett@gwspplaw.com
-- For the Defendants

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THE VIDEOGRAPHER: The date today is February 16, 2017. The time is 8:16 a.m. This is the videotape deposition of William J. Azeredo, M.D., taken in the matter of Michael Newcomb and Kathy Newcomb versus Spring Creek Cooler, Inc., et al, filed in the United States District Court Middle District of Georgia, Albany division, case number 1:15-CV-00080-LJA.

This deposition is being held at 100 North Academy Avenue in Danville, Pennsylvania. My name is Tim Art and I am the videographer. I am with Gallagher Reporting and Video. The court reporter is Justine Starrick. At this time will counsel please state their appearances for the record, after which the court reporter may swear in the deponent.

MR. HELMS: Jeff Helms, and I'm here for Mr. Michael Newcomb and Ms. Kathy Newcomb.

MR. PICKETT: I'm Mark Pickett, and I represent Spring Creek Cooler as well as the other defendants in this case.

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WILLIAM J. AZEREDO, M.D., having been duly sworn, was examined and testified as follows:

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DIRECT EXAMINATION

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BY MR. HELMS:

Q. Doctor, I'm Jeff Helms. We met earlier and talked before we got going with this deposition. We're going to ask you some questions. And this is a videotape deposition taken here in Danville, correct?

A. Uh-huh.

Q. I'm going to ask you to tell the jury about your experience with Mr. Newcomb as his physician, okay.

A. Uh-huh.

Q. Now, let's get started by you telling the jury your full name please, sir.

A. William James Azeredo.

Q. And, Doctor, you are a medical doctor?

A. Correct.

Q. You have a specialty in the medical field?

A. Uh-huh.

Q. What specialty is that?

A. Otolaryngology.

Q. That's a big word. Tell us what that means.

A. Ear, nose, and throat.

Q. Are you also a surgeon as an otolaryngology?

A. It is a surgical subspecialty, so, yes.

Q. Please tell the jury briefly your educational background in order to become the doctor that you are now?

A. Sure. It's four years of medical school, and five years of residency. That's it.

Q. Board certified?

A. Absolutely.

Q. We've talked with other doctors the last couple of days about board certification, but if you could also explain to the jury what it means to be board certified as an otolaryngologist?

A. Sure. Once you complete your residency in your first year out you take your boards, which is a two part exam, one day written, one day oral boards, and a percentage of people pass that exam. And if you pass that exam you go from being board eligible, which means you've graduated from your residency, to board certified. So it means you've not only gone through the education, but demonstrated you have sufficient knowledge.

Q. And this is a national test that's given to everybody?

A. Absolutely. It's a standardized national test.

Q. It's a certification that you have a certain competency of otolaryngology that otherwise you wouldn't have, is that right?

A. Yes, it's like having a national bar.

Q. I understand. Thank you. Where do you practice right now?

A. Here in Geisinger.

Q. And Geisinger is a -- appears to be a fairly large medical complex?

A. It's a large medical system that serves roughly one-third of the State of Pennsylvania.

Q. During the course of your practice here have you had the opportunity to examine and treat and operate upon a gentleman by the name of Michael Newcomb?

A. Yes.

Q. How did you first meet him and how did he come into your care?

A. He came in with an ear complaint of altered hearing on his left ear, and in the course of his evaluation found that while the complaints were a bit unusual, they in no small part seem to ultimately be a pulsatile sound in the ear,

difficulty hearing with a relatively normal looking exam. And concern was raised for fluid behind the drum given his past history.

Q. And the history is?

A. With three years in between plus since I've seen him, he had come in after the fact after a trauma. He still had healing lacerations on the side of his head. And this postdated that trauma.

Q. You said he had lacerations on his head. Do you mean he had -- did you see evidence of a scar on top of his head?

A. Well, yeah, superior to his ear, they were healing lacerations.

Q. When you say superior to his ear?

A. Above his ear in this area. (Indicating.)

Q. Left side?

A. Correct.

Q. There was a CT scan that talked about a complete --

A. Opacification.

Q. Opacification?

A. Uh-huh.

Q. Was that relevant to your diagnosis of his problem at all?

A. In general opacification means -- well, to

back up, it means opacification of air cells that exist in the bone behind the ear called the mastoid. And those air cells connect with a space behind the eardrum. And he had fluid on that CT scan both behind -- or soft tissue density material, opacification, behind the eardrum and in these air cells.

And on a CT scan that means it's not air as it's supposed to be, it's something else. And the options are inflammation, soft tissue, fluid, or some combination thereof.

Q. So after you saw him he was complaining about I think a fullness in his left ear, is that right, what is that --

A. Among his complaints, plugged feeling, oral fullness is a more technical term for it, and altered sense of hearing.

Q. Ultimately what did you find out what was wrong with the gentleman?

A. Well, after we did a myringotomy.

Q. Tell us what a myringotomy --

A. Which is making a small incision in the eardrum after putting topical numbing paint on the eardrum. He was found to have fluid on the eardrum. As it was somewhat pulsatile and clear this was

concerning for CSF. Because any typical fluid behind the eardrum is not clear and not pulsatile. So we sent it off for a protein that is functionally only found in CSF, which is fluid that bathes the brain and spinal cord.

Q. And during the course of the deposition I'm going to interrupt you every once in a while when you use certain words I'll need a definition and the jury will too. Okay?

A. I'll try to explain any technical terms I use, but otherwise feel free.

Q. Pulsatile?

A. Means a pulsing sound. So I used it twice already, pulsatile tinnitus is a pulsing sound in the ear. To have fluid pulse is what you would imagine if you had something underneath and you had a hole and had fluid come up and you had something that would sort of be a pump underneath, you would see it well up a little bit and go back down.

Q. That's something you could observe?

A. With a microscope, yeah. When we make these incisions it's all with an operating microscope in clinic so we could see it pretty easily.

Q. Even to get the fluid off his ear it's with

a microscope and you have to stick it in his ear, is that right?

A. I'm sorry, stick what in there?

Q. The needle to get the fluid out?

A. Well, the way we do it is we make a small incision with a -- it's called a myringotomy knife. It's just a small blade, and a patch that we've numbed up on the eardrum. And through that we could see fluid come up and then we suction it out and collect it to send it off if we're concerned about it being CSF.

Q. And CFS is?

A. CSF, is, again, fluid that bathes the brain and spinal cord. It's an acronym for cerebral spinal fluid.

Q. And that's what it was behind his ear, his eardrum?

A. Correct. Because the lab was positive. So that is basically the diagnosis.

Q. What did that indicate to you at that point then, what his problem was?

A. He had a CSF leak, and that's why he had fluid behind his eardrum and in his mastoid air cells, again, this bone is the mastoid. And unfortunately at that point it's not a medical

issue, it's a surgical issue. (Indicating.)
Q. You scheduled surgery for him?
A. Correct.
Q. And you also asked a neurosurgeon to assist in the surgery, is that right?
A. Uh-huh.
Q. And what doctor was that?
A. Dr. Toms.
Q. Is he a colleague of yours here at Geisinger?
A. He's now not here, he's moved on, but he was a colleague of mine, yes.
Q. Had he assisted you before in surgeries?
A. Oh, yes, and subsequently. We did many of these together. By that I mean, all the ones that we came across, more than we would like to do because we would like to do none and people obviously not have a CSF leak.
Q. Technically what was the nature of the surgery that you recommended for Mr. Newcomb?
A. Middle fossa craniotomy with repair of CSF leak with tragal cartilage graft and myofacial flap.
Q. All right. And when you and Dr. Toms were performing this surgery, did you stay in the OR room with him and he stayed in the OR room with you and

you all worked together, or did you come in and out, or how did that work?

A. I was there for the entire time. He was there for placement of the lumbar drain and he came in to see if there were any issues, there weren't. And then at one point we found an encephalocele, which is basically a small nonviable portion of the brain herniating into the ear space. And I had him remove that basically bipolar, which is cautery between two tips so it's all focal and not spread, the electric current from the cautery. And then he attempted repair of the dura. But the dura is the tough stuff, the tougher layer that covers the brain. But it was thinned out to the point where that wasn't productive so then proceeded with the repair of the defect in the skull base.

Q. How many times before Mr. Newcomb do you think you worked with Dr. Toms doing something like that?

A. I honestly don't remember, but more than once.

Q. And you worked with him subsequently after Mr. Newcomb on similar surgeries?

A. Yes. At least a dozen to 15 times.

Q. So you all were in the operating room

working as a team really?
A. Uh-huh.
Q. I think we're to the point right now that earlier I had a sent to you a medical illustration, is that right?
A. Uh-huh.
Q. You've had a chance to review that?
A. Yes.
Q. Is it a reasonable, accurate representation of the human anatomy for Mr. Newcomb?
A. It's reasonable, yes.
Q. And does it give a reasonable depiction of the surgical process that you all undertook?
A. It's illustrative, yes.
Q. And would that illustration help you explain your testimony to the jury?
A. Sure.
Q. Doctor, if we could, and I'm going to pick this up and bring it over to you, this is going to be marked as Plaintiff Exhibit Number 1 to the deposition. I want you to use this illustration if you could to kind of walk the jury through first of all the anatomy and what we're talking about, and then the process of the surgery.
A. Do you want me to hold it or are you going

to hold it?

Q. I'll hold it for you.

A. This is what's called a coronal view. By that it's a cut this way, so here is the brain. This is the spinal cord here. The left ear would be here. And you could see that the balance system is here. That's the organ of hearing called the cochlea. Here is the eardrum. And the space behind the eardrum is here that we were talking about. (Indicating.)

The mastoid area I was talking about, which is posterior to the ear canal, would be deep to the plane of this board. But remember, those are filled with air cells that are contiguous with the space behind the eardrum. This is the lateral skull here. And this area here is what I was referring to as the lateral skull base or just skull base for the purposes of this case. And that is the bony separation between the brain space and the ear space. And basically pertinent to this case this represents an encephalocele, which is a small herniation of brain through a defect in the skull base. (Indicating.)

Q. When you say a defect in the skull base, is that what walking around folks would say a fracture

in the skull base?
A. It could be. But some people do have natural defects in the skull base. So I view it as just for all purposes regardless of whether it was acquired or congenital or acquired from trauma or not just a defect for generic term.
Q. But it's part of the skull though, that bony part right there?
A. Yes, it's supposed to be a complete bone plate, that's considered the normal state.
Q. All right, sir. And when you say the encephalocele, it was a herniation the brain tissue was just --
A. It doesn't have to be brain per se, but it could also be the lining covering it. It's basically contents from this space, so that includes dura, meninges, doesn't have to be actual brain. That would be a meningeal myelocele. But this is an encephalocele, this is contents from this space herniating through there. With that that would be the suspected obvious site of the leak of fluid, the CSF that we talked about earlier.
Q. And this is a serious condition for a patient to have, isn't it?
A. We don't undertake this surgery, you know,

lightly. We do this because we have to. We do this because anybody that has a CSF leak is at risk of developing meningitis, which can be extremely significant.

Q. And that was my question. How would the meningitis come around, what would be the process, if he got meningitis if this had not been repaired, say, for instance, how does that work, what's the fear?

A. Well, anybody with an ear infection or any sort of -- you have an unnatural communication between the CSF space which is essentially immune sacred area, now in communication with the outside world because the space behind the eardrum ultimately through the eustachian tube, which is somewhat drawn in here, connects to the space behind the nose. And while this is a clean space, it doesn't have to be clean and it's the same concern whether it were a leak through the nose in the anterior skull base or the lateral skull base. You're not supposed to have that communication. So it's basically something that needs to be repaired.

Q. Simplified, does it mean that bacteria could come up through that leak and get up inside the brain?

MR. PICKETT: Object to leading.

THE WITNESS: I'm sorry?

MR. PICKETT: I object to leading.

A. Essentially meningitis is an infection of the meninges, the lining covering the brain, and it's the concern, meningitis. It's basically as I explained an unnatural pathway by which an infection could track to the brain space.

MR. PICKETT: Could we go off the record for a second.

THE VIDEOGRAPHER: Time is 8:33, we are going off the video record.

(Discussion held off the record.)

THE VIDEOGRAPHER: The time is 8:34, we are back on the video record.

BY MR. HELMS:

Q. Doctor, in terms that maybe we could understand, explain to us how meningitis would be a danger in this case and what would be the process of how it would occur, how it would enter and get to the brain?

A. Well, one, I can't guarantee that if you have a CSF leak you're going to get meningitis. The problem is you're at risk for it, and once you've identified the risk it's not -- as long as you're

healthy enough to undergo the surgery, it's not considered an option to leave it alone.

Q. All right.

A. Unless a patient so choose understanding the risks of meningitis or even worse brain abscess and what the chances are of being who you were before and after such an episode. But the fear would be bacterial meningitis based on the location.

Q. And how would the bacteria enter the ear and get into the brain?

A. And, again, if you had an ear infection, the space behind your eardrum, that type of ear infection, I'm not talking about something shallow to the eardrum, but in the middle ear, which is the volume between the eardrum and the inner ear, which is the organ of hearing and balance, it's not uncommon for people to have an infection. And if you have an unnatural communication between that space, and with that I include the mastoid, then you have a much higher risk than the average patient would have of developing an infection tracking into this space. And the first and most significant risk is that of meningitis.

Q. All right, sir. Thank you. Okay. Moving on then I think you have identified the condition

that Mr. Newcomb had. If you could just maybe -- well, over here it's got a drain, and that was done -- recommended by Dr. Toms. Can you explain to the injury why you do that in a surgery like this?

A. Sure. And to clarify I don't do this, neurosurgery does this. It's in part -- for this particular case it's to take some of the fluid out of that space to basically create more room because the fluid in question is between the dura here and the brain and you're trying -- if you're making a window into this space you want to have an easier time visualizing this area, and there would be less retraction of the brain in that circumstance. You also use certain medications to also reduce that pressure inside that space. (Indicating.)

So it's partly for visualization during the case and keeping patients safe. The second part has to do with post-op care and letting the grafts and flap we put in there basically not have the added pressure and you release some of the CSF over so many hours to reduce that pressure. As you questioned earlier, we produce plenty of CSF, so it's not a question of running out of CSF. You just reduce the volume, and it's in a monitored setting.

And in cases outside of this in

general we use a lumbar drain because most people who have these types of leaks they're spontaneous not acquired from some form of trauma. And in those patients it gets to trying to determine an underlying diagnosis for those patients with spontaneous leaks.

Q. Just one question, the drain, how is it -- what is used to put the drain in?

A. Well, this is -- these are a series of questions that are probably best asked of the neurosurgeon involved rather than me. But in general there's a trochar, you basically are trying to get between the vertebra.

Q. A trochar?

A. Basically a long needle with an open bore once you have it in there. So it's got a stylet to keep it so you don't bring any tissue into it, and you take the stylet out. These aren't technical terms I'm sure, because I'm not a neurosurgeon.

Q. But you understand the process?

A. Yes. And they basically identify that they're in the fluid space between the spinal or inferior to the spinal cord and the dura covering that area. And once they're in there they thread a catheter through that trochar and thread it into

that space. Obviously this is done sterilely and they basically suture it so it can't be pulled out. And then you have this tubing essentially in the same space that this is. (Indicating.)

So CSF is cerebral spinal fluid. So whether you're accessing here or here, you're reducing the pressure in this area by draining it out there. (Indicating.)

Q. So it's a catheter stuck into the spine inside the spinal column to drain the fluid out?

MR. PICKETT: Objection, leading.

Q. Is that a --

A. I wouldn't use those terms. It's basically into -- the spinal cord runs through the center of the spinal column and it's between two facets here where if someone is bent you could access it better. And you're trying to -- think of it -- the best way to think of it, it's the same approach as would be done for an epidural for a pregnant female if she was going to have an epidural during labor, except rather than being superficial to the dura, epidural, it's through dura, so you're into the CSF space.

Q. All right. If you'll move forward, and I think down at the bottom left begins the process of how the surgery gets going.

A. Okay.
Q. If you could walk the jury through the incision that you make.
A. Sure.
Q. There's a notation about the cartilage, why is that important in this case? We'll get to that.
A. Okay. I'll cover that.
Q. Yeah.
A. Basically the incision, since we tend to care, we try and hide the scar as much as possible, we do a standard ear incision, which is just posterior to the connection between the ear and the side of the skull, so it's actually closer to the ear so you can't see it. And right above the helix here, or the root of the ear, it kind of comes straight up about a centimeter or two centimeters. So because we need to access here to get to there. So basically this hides the incision well, it would all be in the hair. It's all just cosmetic. Other people do these flaps differently. This isn't -- there's no one way to do this. (Indicating.)
Q. Assuming you've got hair to cover it?
A. Even if you don't, you're still a lot happier with a scar that if I looked at you straight on you wouldn't see, versus a big C shape flap here.

(Indicating.)

Q. I got you.

A. So basically secondarily this little cartilage nub here is called the tragus. And that is an excellent source of graph material to fill defects, because cartilage tends to be stable and not go away as readily as just a bone graft would. And it's malleable and you could cut it to fit the size of a defect a little bit, and it has a natural connective tissue layer covering it, the perichondrium. So you also have attached to it a connective tissue, little flap, to help hold it in place, secure it, and also help cover further area.

So through a separate small incision on the axis of the tragus we basically tunnel down to the cartilage and the perichondrium and snip that piece out and close it. It looks the same, it's just we warn the patient, it'll be a little bit floppier than it used to be, but no one will look at that and notice.

Q. Okay.

A. But obviously if you have a CSF leak you're more concerned about repairing the leak.

Q. Did you use that, that plug that you pull out of there for placing it inside his --

A. Well, it's a graft, it has no blood supply. And that's one of the layers we use to basically fill the defect in the skull base.

Q. All right.

A. But this implies we did this at first. And sometimes we do, because we pretty much always use it, but we actually in his case did it later so I could have a sense of the size of the defect so I knew how much cartilage I would need.

Q. You mean once with you got inside and looked at it?

A. Once we knew -- yeah, because it's all in the prepped area, it's not like a reboot. It's, okay, now we know what side we need, let's harvest the graft.

Q. That makes sense. Okay. Continue on, and using this illustration if you could.

A. So once we make this incision we basically are down to the connective tissue that covers this big muscle here called the temporalis muscle. And we basically harvest a sort of tongue shaped flap of that connective tissue and a thin veneer of the muscle attached to it so it has some substance. It's basically a flap here and pedicled on the blood supply here. And we basically roll it back here and

cover it with saline covered gauze to protect it during the case. And then we come down through that muscle in the connective tissue here to visualize the skull as you see here. (Indicting.)

And then we tend to make -- there isn't one particular way to do this, but basically you make a window in the skull, we make a small window, probably because -- most likely because we're ear surgeons and we don't like big window and we're used to small spaces, and that lets us see the dural covering, which is this white here. (Indicating.)

Q. Let me stop you.

MR. HELMS: Are you able to get this okay? I just wanted to make sure he's picking it up on the video.

A. And understand, our patient isn't sitting up. So they're like this. So our view is all under a microscope by the way. So we're looking at this interface between the dura and the skull base here. So we basically still have a little bit to tunnel down here. And we gently lift the dura up. And if you see some small defects you could identify them at this point. And you basically keep coming more medially toward the middle of the skull and trying

to identify the entire lateral -- from the ear perspective tegmen. So cut that area of bone separating ear from brain, both covering the space behind the eardrum, the middle ear, and posterior to it, that covering, the mastoid, that bony separation between ear and brain. Okay.

Q. Okay.

A. So as we do that then in his particular case we encountered this encephalocele. We didn't know he necessarily had one up front, it's just he had a defect, you're always prepared for that. Once that was encountered, as I mentioned earlier, Dr. Toms came in and basically bipolared that stock, because this is nonviable tissue at that juncture.

Q. When you say nonviable, it had had blood supply and it's dead?

A. It's nonfunctional in terms of any neural activity, it's basically a stock. If it had any actual brain in it per se, because again encephalocele doesn't necessarily mean there's brain in there. But the bottom line is if you pull it out it doesn't pull out well. And, two, there's no great reason to, you just basically separate it off safely so you have that defect there.

Q. In hernia cases I've heard of them talk

about, doctors talk about muscle tissue or organs being incarcerated, is that the same thing?

A. What kind of hernia, you mean like an inguinal hernia?

Q. Yes. Is that similar to that or is that -- is that something that just --

A. Incarcerated implies it's pinched off.

Q. Yeah.

A. I suppose you could say it that way, but it's not helpful in this case. It's if it comes through it doesn't have much of a blood supply and it's non-functional at that point any way. This wasn't a large encephalocele, you just want to make sure you separated it off and don't just pull up.

Q. I got you. Okay.

A. So at that point for Mr. Newcomb's case Dr. Toms attempted to repair the dura in that site, but it was to thread bare, as it typically is in these cases, it wasn't worth trying to repair, there's nothing to repair.

Q. And when you say dura, explain to us again.

A. Again, it's the tougher layer, this white layer that cover the brain and the meninges.

Q. Meninges?

A. The delicate lining that covers the brain.

We used that the term before relative to the term meningitis, which is an infection of that lining.

Q. Okay.

A. So basically at that point then, you know, you want to make sure you've identified every spot where fluid could leak through. And once you've done that as thoroughly as you can and figure any further risk outweighs the benefit, then you undertake the patching of the holes to put it simply. And smaller ones you can use bone wax, which is similar to paraffin, totally inert, just to fill it. The one where the encephalocele was though was larger and we used that cartilage we harvested from here for that. (Indicating.)

And then after that that flap that I talked about before, which would have been over here now, we basically turned over to cover this area. And the idea in general is to have more than one layer plugging these things. So now with the cartilage, the bone wax, and then the connective tissue covering that cartilage, consider that one layer, and then you have this other layer of connective tissue with a muscle, that has muscle on it, covering all of it. And then we use tissue glue to hold it in place. And then we place the bone

back on and close.
Q. You just cut a little plate of the skull out?
A. Uh-huh.
Q. Set it aside?
A. Sterilely of course.
Q. And how is that -- how is it placed back in there?
A. We use mini plates basically, titanium plates to hold it to the adjacent skull.
Q. So you put another -- is that a titanium plate you replace that with?
A. We try and use the same bone, but it's such a small hole, honestly, you could use a titanium plate and not use the bone.
Q. Did you use a titanium plate in this case versus a bone?
A. I can't remember specifically because I haven't read my OR report for over three years.
Q. Okay.
A. But if I didn't use the residual bone it was because it was so small and it wasn't worth it, because screwing the plate into the bone -- so you have to tell me whether I did or didn't. There's sometimes where the bone is so thin and it's -- as

you try and put a screw in it it fractures anyway that you put a larger titanium plate covering it. And it's a small enough defect that honestly you probably wouldn't have to use anything, but would rather have something on there.

Q. I've got you our op note here. Would you be able to take a look at it real quick?

A. Sure.

Q. Would that be Dr. Toms' op note or your op note?

A. I haven't seen it yet.

Q. No, that --

A. Oh, I'm sorry, that would be mine. I thought that was a trick question.

Q. No trick questions here.

A. Can I let go of this?

Q. Yeah, I've got it.

A. All right.

Q. We're saying op note, this is an operative note that you dictate based on your surgery, is that right?

A. Here we go. Okay. Given the size -- the decision was made to use a burr hole cover over the craniotomy. Okay. So we used a burr hole cover.

Q. In other words you used a plate?

A. A titanium plate. And, again, these are really small defects and many people wouldn't cover it. That's a minor thing. Many people would have a defect larger than this have nothing covering it. It's just -- the total size, you're talking roughly a centimeter and a half, you know, and at the greatest height two centimeters by two and a half to three total, you know. It's a small defect.

Q. Just to give the jury an idea, you're doing all of this with microscopic tools looking into a viewer?

A. Absolutely.

Q. And then you're -- you use those tools by -- how do you -- like a little stick or thing, how is that done, explain --

A. I don't understand.

Q. When you're looking down in there you're using tiny little tools that you're looking at through --

A. When you're working on the skull base it's all under a microscope, and we use specific instruments for middle ear surgery and neurosurgery. So a combination, depending on what works the best, but a lot along here are neurosurgical instruments, little elevators, an elevator is just basically --

how would I explain an elevator -- basically you elevate tissue off some other surface.

Q. Pull it off the surface?

A. Like a tiny little spatula. So not sharp instruments. And small little forceps that you could see drawn in here. (Indicating.)

Q. How do you manipulate those tools?

A. By hand.

Q. Okay.

A. This isn't robotic surgery if that's what you're getting at.

Q. I guess that's what I was getting at, like a laparoscopic surgery like you stick something in there and manipulate.

A. This isn't looking on a screen with scopes. This is a microscope, not a -- you're thinking of more like a telescope like with laparoscopic belly procedure.

Q. So you've got to have a pretty steady hand I take it?

A. Yes.

Q. I would hope so.

A. Well, I wasn't going to be funny about it, but, yes, you would certainly hope so. But in the is scheme of thing if you're an ear surgeon you by

definition have to have a steady hand, because most of what I do is much finer and smaller than this repair.

Q. Okay. Move forward for us if you could. I think you had talked about removal of that bone plate?

A. So this is a demonstration of placing a cartilage graft in the defect where the encephalocele was. There would be a little piece of perichondrium attached that would lay over part of this. And depending on what looked thinner and where I had used bone wax, I would orient it so the connective tissue was covering that as well. And this is a demonstration of that myofacial flap, though it doesn't look quite that big, but it would cover all of that area.

And then once that's in place you basically use a fibrin glue to glue everything in place and then put the titanium plate here so the connective tissue and muscle close, so the layer under the skin closes, so the skin closes, and put a little dressing on there.

Q. All right. And that ends the surgery part, is that right?

A. Correct.

Q. Thank you so much. Mr. Newcomb followed up with you on several occasions afterwards in your office, is that right?

A. Uh-huh.

Q. How did he progress after the surgery?

A. He's done well. I still see him, just annually, just to make sure he's doing okay. I saw him last fall and he's done very well. He's not had any problems. Initially he still had some fluid behind his eardrum. We always are concerned about a persistent leak, that resolved. He had imaging which showed no fluid in there. He's not had any further problems. Anything that was bugging him pre-op is gone in terms of his ear.

Q. And that's just what you limited your care to, was the repair of the problem inside his skull right there for the ear, is that right?

MR. PICKETT: Object to leading.

THE WITNESS: I'm sorry?

MR. PICKETT: Object to the leading.

Q. You could go ahead and answer.

A. Well, I'm an ear surgeon, so I'm interested in ear complaints. And this is an interface between a neurosurgical issue and otologic issue and that's why the particular team and the approach.

Q. To your knowledge he was seeing other medical doctors for other problems here at Geisinger?

A. Yes, but I don't know the details of those because, you know, I'm farmed out to a small component of his concerns.

Q. Just a couple of questions about the follow up. I think at one point he was complaining about pain on the right side of his head as opposed to the left side of his head. Do you have any memory of that from the clinical notes, does that stand out to you?

A. Not particularly. No, that must have been a long time ago. But it wouldn't have anything to do with the surgery unless he had musculoskeletal -- because you're positioned in a certain way, if it was immediately after surgery -- you tell me, was it?

Q. The first two clinic visits after surgery.

A. It could be that. But otherwise given -- it could be anything else. But there would be no direct reason to assume it had anything to do with the surgery or CSF leak which predated that surgery.

Q. When you said -- to make sure we understand, when his head is tilted you said it

could have been due to a musculoskeletal, just strain in a neck?

A. If I have you in a position like this for four hours you're not going to -- you know, if you have any issues with your neck you're going to be sore afterward.

Q. If you've got pre-existed arthritis in your neck and you're in that position for four hours?

MR. PICKETT: Objection. Objection, leading.

A. It's not way over, it's like this. And it could be, but it could be he would have had that anyway. I'm just saying it's not, depending on when he complained of the pain, if you said it was after surgery, sure, it could be from positioning. But you can't have him like this, you know, you have to be able to access the area. But, you know, independently of that it was a short lived issue for him and it's not atypical, whether people have arthritis or not, that from positioning they're going to be sore for a while after. (Indicating.)

Q. This was just from the first two clinic visits after the surgery then it didn't appear to be any more trouble.

A. All I know is he's been smiling for several

years and he was not smiling when I met him.
Q. The surgery was a success I take it?
A. Uh-huh.
Q. Yes. Okay. Will he follow up with you in the future?
A. Yeah, I said he's following up next year. It was in this past fall as well, yeah, just to make sure he's doing okay. Most people I follow up for some period of time afterward to make sure there aren't any further issues.
Q. At one point I think it may be the third clinic visit you got more fluid off the eardrum. What was the concern there?
A. Oh, I mentioned that earlier, we're always concerned about that, that it isn't completely repaired. But you can -- like I said, it takes a while for it to heal in. And in talking with neurosurgery they felt it was probably just healing in, and he's had no further fluid since that time. So it was probably the process of scarring, of those flaps scarring down. You don't heal instantly.
Q. It takes a while, doesn't it?
A. Yeah, basically you're asking these flaps and grafts to scar down onto the defect. And it assumes there's no residual fluid behind in that

space, which there could be.

Q. You talk about some of these problems can happen to people spontaneously without any trauma, is that right?

A. Uh-huh.

Q. In this particular case, based on your knowledge about the history he gave to you and what you observed about where he hit his head there, in your medical opinion within a reasonable degree of medical probability, is it more likely than not that this defect that he had as you refer to it, was it caused by trauma, or did it just happen naturally?

A. Honestly that's a tricky question because I don't have a way of knowing. But if it was there before and he had an encephalocele before, what he didn't have before based on his complaints afterward was a CSF leak. So if he had had an encephalocele before you wouldn't necessarily repair it unless it was causing a problem. So independent of whether there was a fracture there or not, I have all the reason based on his symptoms to think that he had a CSF leak subsequent to the trauma, whether or not it was directly caused by a fracture or not. Does that make sense.

Q. Well, let me think about that just a

second.
A. In other words, if you had this soft tissue -- it's a presumption because I have no way of knowing, I'm trying to be as objective as possible. Let's say you had a situation where a patient had some soft tissue herniating through a defect, and then through some force of trauma you shear that and that develops a leak, it's still a leak after a trauma, whether or not it was a fracture and that's when the encephalocele came through.
Q. Well, assume that before he came to see you he was driving a truck, 18 wheeler, 40, 60, 70 hours a week, having no problem with inner ear --
A. Middle ear.
Q. Tinnitus, buzzing?
A. Well, that's inner ear. Brain actually, go ahead.
Q. Okay. Excuse me --
A. No, that's okay. I'm trying -- balancing being technical with being understandable.
Q. And assume that on January 20 he gets hit by a forklift.
MR. PICKETT: June 20.
Q. June 20, 2013, I'm sorry. Hits his head on

the hinge on the door frame causing that laceration you see on the left side of his head, and after that continually for the next few days gets worse, even came to Geisinger on June 22 -- June 28 to the ER, or 24, shortly after, within a week after the trauma, he had the, pronounce that word with an O, opacification?

A. Opacification, yes.

Q. And then Dr. Eckel, do you know Dr. Tim Eckel, he's a family physician?

A. I know the name, but I don't get out much.

Q. He refers him to you. And I know you can't say with a scientific certainty, but with a reasonable degree of medical certainty is it more likely than not, based on those facts, that this was --

A. Right. But I actually did say that this -- since the symptoms occurred after it, I think it's very reasonable to assume the CSF leak occurred then. Whether or not there was a pre-existing encephalocele doesn't change things. Because I can't say whether the encephalocele was there or not, or whether it was a true fracture. Either way, there was no symptoms or anything before, and afterward he had these symptoms which were

associated with a CSF leak.
Q. And I understand what you're saying now. You can't say whether or not the encephalocele and fracture predated the trauma or not. You could just -- in your opinion the spinal --
A. A fracture implies trauma. So I would say the encephalocele could occur through a natural defect, not an old trauma.
Q. Okay.
A. But he could have either been a setup for a CSF leak and then had a trauma which caused the CSF leak, or he had a fracture with an encephalocele and a CSF leak. But either way after the trauma, there was a CSF leak.
Q. And it's the trauma that -- if it pre-existed or was caused by the trauma, the spinal fluid leak occurred after the trauma in your opinion?
A. Uh-huh.
MR. PICKETT: Object to leading.
Q. I'm going to try to clear that up. Do you have an opinion whether or not this spinal fluid leak occurred due to a trauma?
A. Well, again, since he didn't have the symptoms before, and he had them after, and I'm

saying the symptoms are associated with fluid behind the eardrum, that turned out to be CSF, then I would say that the CSF leak was caused by the trauma regardless of whether he was a setup before for underlying encephalocele through a defect, or whether there was an actual fracture through the skull base.

Q. Got you. Okay. Thank you. Just a couple more questions. Mr. Newcomb as a patient, did he follow your recommendations and your instructions?

A. I believe so. It's hard to -- with all due respect after over three years I don't recall -- put it this way, I don't recall him not following my recommendations.

Q. Some patients are what we call noncompliant, is that right?

A. I try not to use that term because it's not nice and it's not helpful. But anything I recommended he tended to do. But it's nothing that sticks out in my memory like he should have done this, thus this happened, and ugh, to put it bluntly.

MR. HELMS: Okay. Doctor, that's all the questions I have right now. I appreciate it. Mr. Pickett is going to have some questions.

THE WITNESS: Sure.

* * * *

CROSS EXAMINATION

* * * *

BY MR. PICKETT:

Q. Dr. Azeredo, the area that you treated and the area where you could see a healed laceration on Mr. Newcomb, those were both on the left side of his head?

A. Correct.

Q. Can you reach the exhibit, I wanted to ask you some questions about it.

A. Do you want this?

Q. No, I'm just going to direct you. These are pictures, drawings that were done to help us orient ourselves and see where things are in relation to each other. As far as size, the drawings are not -- they're not accurate or to scale, are they?

A. No, of course not.

Q. And one thing in particular, the diagram in the lower left corner, the side view, that's a side view of the right side of a head, of a human head, correct?

A. Sure. But it doesn't change the

orientation of an incision.
Q. Okay. But just to be clear, even though the drawing is of the right side, the procedure you did is actually on the left side?
A. Yeah, correct.
Q. The drawing just above that, is that a view from the front or from the back?
A. A standard medical view says it's from the front.
Q. Which would indicate that --
A. That this is the left side that we've been talking about, yes.
Q. And then the rest of these pictures appear to be of the left side?
A. To jive with this.
Q. It's just the one on the bottom left that's right, and that one's just --
A. Correct.
Q. It's just the other side?
A. You're correct. This is the right side, which is the incorrect side.
Q. It's the wrong side for this procedure in this particular case?
A. Exactly.
Q. The place where the defect occurs, and I'm

referring to --
A. Skull based defect?
Q. Yes, sir. The dehiscence that's right where the encephalocele is, the drawing shows that area of bone that's fairly broad and wide, is that accurate, or is it actually thinner than that?
A. Are you talking about the depth of the bone?
Q. Yes.
A. Or the area of the defect?
Q. The depth of the bone.
A. It depends on the patient. In Mr. Newcomb's case in particular it's thinner than that.
Q. In some --
A. It's typically very thin. But for illustrative purposes certainly things that we review with patients often show it this thick. It's just a question of for clarity for a patient versus being absolutely accurate.
Q. But in Mr. Newcomb's case it was actually very thin?
A. It is -- was -- it is.
Q. And that's not uncommon, you see that in a lot of patients?

A. It's not uncommon.
Q. Could I go so far to say that it's paper thin and be accurate in some people?
A. Paper thin is a little bit too thin in no small part because of just the material of paper versus bone. It's still solid.
Q. Right.
A. But it can be easily a millimeter thick or less.
Q. Okay. And --
A. Put it this way, there's some patients where focally you can't see it on a CT scan in spots.
Q. You don't see any depth of bone at all in the CT scan?
A. Because of the limits of a resolution of a CT scan.
Q. The thinness of the bone in that area, is that what lends itself to these spontaneous defects that you talked about earlier?
A. Controversial, but that's the presumption, or whatever force is -- people with spontaneous leaks probably wouldn't affect someone if they had thicker bone.
Q. And these spontaneous leaks are something

that occur in a significant portion of the population?

A. No. They're rare. They're not for me because of the patients I see. But I doubt you know anyone that's had a spontaneous leak.

Q. Are you familiar with studies that have shown the dehiscence in that area in as much as or as little as -- as much as two percent of the population?

A. With what?

Q. Two percent of the population?

A. What's in two percent of the population?

Q. Dehiscence?

A. Dehiscence?

Q. Dehiscence, excuse me. Dehiscence.

A. Of course I am. That doesn't mean you have a leak.

Q. But I'm talking about there being an opening in that -- a dehiscence would tell us there's an opening in the area of bone that we're talking about that?

A. Of course I'm aware of studies like that. But that's what I'm saying, there are many people whose tegmen's are so thin, and some people who actually -- who postmortem are found to have

dehiscence through the skull base, yes.
Q. So can we say there is a significant portion of the population that has a dehiscence in that area?
A. Sure.
Q. Which would be an opening of the bone in that area?
A. Right. To clarify it, but not a CSF leak, which is what you were asking me.
Q. Okay. So that's two different things. There could be an opening in the bone, but the CSF is not actually leaking?
A. You have to have dura compromised in order to have a CSF leak.
Q. So we've got three layers between the brain and the external world, is that fair to say, the skull --
A. Where are you talking about? In the skull base, are you talking about lateral skull base, or where?
Q. That skull base, you've got the skull, the tegmen -- which that's the bone there, the skull bone is call the tegmen in that area, is that right?
A. Uh-huh.
Q. And then above -- between that, or moving

in from that, you have got the dura?
A. Okay, yeah, of course.
Q. And then inside of that you have got the inner lining of the brain, the word escaped me at the moment, the lining of the brain we talked about a minute ago?
A. The meningis.
Q. Meningis, thank you. So you have all three of those layers. And unless there's a rupture of the dura and the skull, you're not going to have a CSF leak, is that correct?
A. Uh-huh.
Q. So you could have an opening in the tegmen which is the skull bone, but not in the dura and not have a CSF leak?
A. I'm sorry, say that again, I drifted.
Q. You could have an opening -- you could have an opening in the tegmen, in the skull bone?
A. Correct.
Q. But not in the dura?
A. Right. And thus you would not have a CSF leak.
Q. And that condition has been seen to occur in a portion of the population in autopsy photographs and --

A. The bottom line is two percent of the population may have some small defect in the skull base, but it's far less than two percent of the population that gets a CSF leak.

Q. Okay. The people that have that dehiscence or that opening --

A. Do you still need this?

Q. Yes, just for another minute.

A. Okay.

Q. Those people are more prone to a CSF leak?

A. Unclear.

Q. Okay. The question was unclear or the answer?

A. No, your question is clear. But it's not -- there are reasons why you could have thin -- it's an area of ongoing research, but that's for a spontaneous CSF leaks which is a different issue.

Q. Different issue from what?

A. From a traumatic CSF leak.

Q. And in this case your opinion is that this CSF leak, even if there was a pre-existing opening in the skull, the CSF leak was caused by the trauma?

A. He had no symptoms before associated with fluid behind the eardrum, and that fluid behind the eardrum was bound to be CSF. And once it was

repaired those symptoms went away.
Q. Okay. The day that you first saw him and made the little incision in his eardrum and checked the fluid and all, that date was July 22, correct, of 2013?
A. Sure, again, you've had more recent access to his notes than I have, so that sounds right.
Q. By the time you saw him the sutures on his wound had been --
A. Removed.
Q. And the wound was healed to a degree?
A. Uh-huh.
Q. Would it be consistent with it having been about a month, about a month or so after the laceration had occurred?
A. Sure.
Q. So the laceration occurs on June 20 and you first saw him on July 22, that would be consistent with your -- what you observed?
A. Uh-huh.
Q. The diagram that's labeled B, where it shows, bone removed?
A. Uh-huh.
Q. And it shows that's the removal of an area for the window that you talked about earlier?

A. Right.
Q. And that looks like a pretty large disk of bone being removed, but it's actually a very small window that you use, correct?
A. Right. As you said, these aren't to scale.
Q. That shows a much bigger circle of bone being removed than actually was removed?
A. Correct.
Q. I'm done with the diagram now if you want to put it down. Thank you for holding it for me.
A. Sure.
Q. In this case you describe there as -- I believe you said meningoencephalocele -- and there's a standard encephalocele?
A. Okay.
Q. Is that --
A. Close enough.
Q. The meningo is where you've actually got brain matter that is recognized as part of the encephalocele?
A. Meningoencephalocele.
Q. Meningo.
A. But, again, I was just clarifying that encephalocele just means herniation of contents from the brain case. It doesn't imply there's

necessarily neurons, brain material in there.
Q. And in this case what we had was not a meningoencephalocele but an encephalocele?
A. Don't know, didn't send a tissue sample because it wouldn't change what we needed to do.
Q. Whether or not this -- and the encephalocele is the herniation or the bulge of something inside the skull coming out?
A. Uh-huh.
Q. And what bulged out may or may not have included any actual neuron, brain matter?
A. Correct.
Q. We just don't know?
A. Either way what herniated through would be nonviable, so it's not -- and that's more -- this is probably -- if you wanted to ask further questions it's probably better to ask that of the neurosurgeon, not me.
Q. The size of what came through was relatively small though, correct?
A. Uh-huh.
Q. Smaller than what we just saw on the diagram?
A. And, again, given that the diagrams are illustrative it's, you know -- but I would say that

in true size it wouldn't be massively different. If it was relative to this, it's disproportionate. But it's enough so that the defect that it went through was big enough to put a piece of cartilage from here to cover it, and have it covered effectively. So you're talking a defect under a centimeter, but that's still a decent size defect for what's not a very big area.

Q. In terms of -- for a south Georgia jury, a centimeter is how much inches?

A. It's the other way around, 2.54 if I recall correctly from grade school, centimeters to an inch.

Q. So two and a half centimeters make up an inch. So a centimeter is roughly a fifth of an inch, something like that?

A. The size of a navy bean. (Indicating.)

Q. As far as this, whether this encephalocele included any brain matter, we don't know that?

A. No.

Q. We talked about meningitis. In this case there was no meningitis?

A. No. But keep in mind, the surgery is to prevent meningitis.

Q. I understand. But it was successful and there was no meningitis, and he had not had

meningitis at any point?
A. Since we're very exacting in how we view it, he has not had meningitis.
Q. You mentioned that if there are multiple leaks you'll plug them with a bone wax?
A. No, no, no. I mentioned if there are multiple defects we'll plug them with bone wax.
Q. Multiple defects, multiple openings in the --
A. Tegmen.
Q. In this case were there multiple openings in the tegmen?
A. There were several small ones as I recall. But, again, as you mentioned that's not atypical. But once you have a leak if you're not going to repair the dura you want to plug all the leaks.
Q. So we're not talking about one skull fracture opening where brain material came out and had to be cut off and healed, but we're talking about multiple openings?
A. That was the main one, and that was by far the biggest one. And then anything, since we don't want to go back in there, any other spot that looks like it could be another source for CSF to go through, we fill with bone wax.

Q. But in Mr. Newcomb's case there was a main --

A. Encephalocele and defect.

Q. Defect where there was an encephalocele?

A. Uh-huh.

Q. And then there were other smaller defects where there was no encephalocele, there was no brain material coming through?

A. Correct.

Q. But there was still, because the tegmen was so thin, still some other openings in the skull?

A. Uh-huh.

Q. And you plug those with bone wax.

A. (Witness nodded.)

Q. The window of bone you said was so small that you could have larger windows and not need to put anything --

A. You're talking about the lateral skull base now? You're talking about here, this window?

Q. Yes, the window I believe you said the titanium plate was used?

A. Uh-huh.

Q. We're talking about titanium plate, how large are we talking, centimeters?

A. Well, the titanium is -- the titanium isn't

anything to do with the size of the plate, it has to do with it being well tolerated and MRI compatible.

Q. What I'm asking you is how large was the plate that you --

A. It was a burr hole cover, so it was about that big. (Indicating.)

Q. Okay.

A. Think of it about the size of a quarter.

Q. Okay. And how big is the hole that it's covering?

A. Slightly larger. So you don't want to cover the entire hole because you have the muscle, so you don't want to pinch on the muscle tissue and myofacial flap I talked about. So you basically have the plate there, screwed here and here so it's not pinching on that flap and screwed onto the skull superior to the defect. But you're talking about that would cover most of the hole.

Q. Was the skull underneath there healed?

A. I'm sorry, underneath what?

Q. Under the plate?

A. It's not a question of healing, it's just screwed in there. I don't understand.

Q. Does the skull bone mend itself behind that?

A. You mean the defect.
Q. No, the window that was taken out, that opening?
A. No, it's just dead scar afterward.
Q. Okay. Because you take a disk of bone is removed?
A. Uh-huh.
Q. About half inch or so I guess?
A. In diameter.
Q. Yes.
A. I'm getting confused. Are you talking about the lateral window here?
Q. Yes.
A. I mentioned earlier, about a centimeter and a half, if you want half an inch by about an inch. It's a triangular shaped piece, probably about that big. (Indicating.)
Q. Okay.
A. And you put a burr hole cover, which covers most of it. But any time you do a craniotomy there is going to be some small defect and it scars in and there aren't issues. So I'm not sure what the question really is.
Q. When you say it scars in, that means the bone fills in around it?

A. Sometimes.
Q. Okay. And you've had situations where you could see a window of that size that you would require no burr cover at all?
A. Yes, and that's what I was talking about with a neurosurgeon is like, yeah, I wouldn't even bother putting that piece of bone back on. And I was like, well, at least I want to put a burr cover on. But again, so since this is the unique situation where I'm involved in making a craniotomy, if you want to talk about a broad series of questions about craniotomies, you're better off talking to the neurosurgeon. We always make small craniotomies, because we don't need a big craniotomy, because what we're trying to do is a very small area.
Q. Like you said, you're used to working in small spaces?
A. (Witness nodded.)
Q. And all of the work that you did, all of the procedures you did for Mr. Newcomb was on the left side of his head?
A. Uh-huh.

MR. PICKETT: That's all I have.

* * * *

REDIRECT EXAMINATION

* * * *

BY MR. HELMS:

Q. When you say this burr hole was attached with screws?

A. Uh-huh.

Q. Just like you would screw a plate over a piece of wood?

A. I've never screwed a plate over a piece of wood. I'm more confused by that.

Q. Okay.

A. But it's like any sort of plating system like facial fractures only thinner in that area.

Q. I'm just searching for an analogy?

A. The simplest way to put it I guess would be, yeah, if you screwed anything else together. Simple screws and you just have different lengths of screws based on how thick the skull is so you don't obviously, you know, have a longer screw than the depth of the skull and you just screw a plate in.

Q. Little tiny screws?

A. Yeah, like three millimeters, you know, typically, four.

Q. Screwed through the plate and into the skull?

A. Into the bone of the skull.

Q. Thank you.

A. It's a standard series of plating systems for different types of fractures. And my area it's usually facial fractures, you know, so it's just part -- I guess I never thought of it as odd, but I guess it is.

MR. HELMS: That's all the questions I have.

MR. PICKETT: Thank you, Doctor.

THE VIDEOGRAPHER: The time is 9:24. That concludes this video deposition.

(The deposition concluded at 9:24 a.m.)

_____, 2017

I hereby certify that the evidence and proceedings are contained fully and accurately in the notes taken by me of the testimony of the within witness who was duly sworn by me, and that this is a correct transcript of the same.

_____
Justine Starrick
Registered Professional Reporter
Notary Public